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| 09/911,850      | 07/25/2001  | Ikuo Aoki            | 1293.1228           | 3894             |

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| EXAMINER |
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ORTIZ CRIADO, JORGE L

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| ART UNIT | PAPER NUMBER |
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2627

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE  | DELIVERY MODE |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

09/911,850

Applicant(s)

AOKI, IKUO

Examiner

Jorge L. Ortiz-Criado

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 December 2006.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,8,10-12,14,16,18,19,21,22 and 24 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1, 8, 10-12, 14, 16, 18, 19, 21-22 and 24 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 1, 6, 7-14, 16, 18-9, 21-22, 24 and 25 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 1, 11 and 24 recites “a predetermined pattern unrelated to the user data is recorded in the coupling area of the zone..., and recording a predetermined pattern unrelated to the user data”.

Description from the specification related to predetermined pattern includes:

The specification at page 4, section [0018], states “After an action of recording user data in a zone (n-m) is completed, predetermined pattern is recorded in a section of the zone”; section [0020] states “the aforementioned predetermined pattern recorded in a section of the recorded

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zone is not related to the user data and may be arbitrarily determined based on the system in use”; section [0022], states an arbitrary pattern in the coupling area.

However, it is not clear what the Applicants meant to be the predetermined pattern not related to the user data and “arbitrarily determined based on the system in use”. It is not clear how such system defines the difference in the arbitrarily pattern and the relationship with the user data. Therefore, the specification does not enable one skilled in the art as to determine such predetermined pattern unrelated to the user data, to make the invention.

For purposes of examination the claim are interpreted with the broadest reasonable interpretation.

Claim 16 further recites wherein the “third predetermined pattern” recorded in the coupling area is based on a recording or reproduction system to perform recording or reproduction, respectively, to or from the optical disc.

However, as outlined above with the supporting disclosure, it is not clear how such system defines the difference in the arbitrarily pattern and the relationship with the user data.

2. Claims 1 and 11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1, recites the limitation “ at least one coupling area to separate the zone from an adjacent zone”. The Examiner cannot readily ascertain with the above claim language where in

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the specification as originally filed support is found for a coupling area to separate the zone from an adjacent zone”. Hence, the new limitation introduces new matter

Claim 1, recites the limitation “a predetermined pattern unrelated to the user data is recorded in the coupling area of the zone to correct for a deficiency or an excess of the designated recording capacity of the zone”.

The Examiner cannot readily ascertain with the above claim language where in the specification as originally filed support is found for predetermined pattern being unrelated to the user data for to correct for a deficiency or an excess of the designated recording capacity of the zone. Hence, the new limitation introduces new matter

Claim 11, recites “each predetermined pattern being unrelated to the user data”. The Examiner cannot readily ascertain with the above claim language where in the specification as originally filed support is found for predetermined pattern being unrelated to the user data for the zone patterns as claimed. Hence, the new limitation introduces new matter.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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3. Claims 1, 8 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, recites “ a coupling area to separate the zone from an adjacent zone”.

It is unclear how a “coupling”, which links or joins, is separating. One ordinary skill in the art would not reasonably appraise the scope of the claim that Applicant is trying to encompass with such contradictory language that renders the claim indefinite.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. The term is indefinite because the specification does not clearly redefine the term.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 1, 8, 10-12, 14, 16, 18, 19, 21-22 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aoki, Japanese Publication No. 2000-195060 in view of Hui U.S. Patent No. 4,229,808.

Regarding claim 1, Aoki discloses an optical disc for use with a recording/reproducing apparatus, in which track grooves are formatted into a waved pattern in a radial direction of the disc, the disc being divided into a plurality of zones (See Detailed description paragraphs [007]-[008], [0013]-[0015]; Drawings 1,2), each zone comprising:

a plurality of sectors each of which includes a data area having a designated recording capacity (See Detailed description paragraphs [002]-[008], [0013]-[0015]; Drawings 1,2,5), and

an identification area in which zone address information for each zone is recorded based on a predetermined modulation rule (See Detailed description paragraphs [007]-[008], [0013]-[0015]; Drawings 1,2,5),

at least a coupling area to separate the zone from an adjacent zone to provide additional recording capacity, (See Detailed description paragraphs [0028]-[0030]; Drawings 5 shows the division between each zone in each m-1,m, and m+1 zones etc.),

wherein, during recording of the user data in the data areas of each zone, a zone start pattern is recorded at the beginning of the user data, to define a position of the user data within the zone, (See Detailed description paragraphs [0028]-[0030]; Drawings 5, "Address information of the zone recorded in the ID part), and

wherein, once the user data is recorded in a particular zone, a predetermined pattern unrelated to the user data is recorded in the coupling area of the zone to correct for a deficiency,

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or an excess of the designated recording capacity of the zone. (See Detailed description paragraphs [0028]-[0030]; Drawings 5 shows the pattern between each zone in each m-1,m, and m+1 zones etc.).

Aoki has the desirability of obtaining the start and end position of each zone by providing a zone start pattern (ID) at an inner circumference of the data recording area, so as to detect where a zone start and which inherently provides when a previous zone ends. But, Aoki does not expressly disclose a zone end pattern at an outer circumference of the data recording area.

However, this feature is well known in the art and is evidenced by Hui, which discloses an optical disk comprising: a plurality of tracks formed in a spiral direction of the optical disc, a plurality of zones (segments), each zone including a predetermined number of the plurality of tracks and each zone further including a data recording area where user data is recorded (A,B,C) and a zone end pattern (E) at an outer circumference of the data recording area (see Figs. 1 and 2).

It would have been obvious to an ordinary skill in the art at the time of the invention to include a zone end pattern at an outer circumference of the data recording area, in order to signify the end of the zones (segment) and prevents any overlapping of recorded data by detection of the zone end pattern, as taught by Hui.

Regarding claim 8, Aoki further discloses wherein the optical disc is a DVD-RAM disc (See Detailed description paragraphs [002]-[008], [0013]-[0015]; Drawings 1,2,5).



Regarding claim 10, Aoki further discloses wherein each of the plurality of sectors has a sector address portion to store a corresponding sector address (See Detailed description paragraphs [002]-[008], [0013]-[0015]; Drawings 1,2,5).

Regarding claim 11, Aoki discloses an optical disc for use with a recording/reproducing apparatus, the optical disc comprising:

a plurality of tracks formed in a spiral direction of the optical disc, each track having at least a groove portion (See Detailed description paragraphs [007]-[008], [0013]-[0015]; Drawings 1,2); and

a plurality of zones, each zone including a predetermined number of the plurality of tracks and each zone further including a data recording area including an address information area (See Detailed description paragraphs [007]-[008], [0013]-[0015]; Drawings 1, 2, 5),

a zone start area at an inner circumference of the data recording area (See Detailed description paragraphs [0028]-[0030]; Drawings 5, "Address information of the zone recorded in the ID part"),

at least one coupling area at inner circumference of the zone start area and/or an outer circumference of the zone, the coupling area being separate from a user data recording area of each zone (See Detailed description paragraphs [0028]-[0030]; Drawings 5 shows the pattern division in the coupled area between each zones in each m-1,m, and m+1 zones etc.),

wherein the optical disc is formatted to include zone addresses for each zone by formatting a portion of the corresponding zone track grooves, in each zone, to include a wobble pattern based on a predetermined modulation rule, and wherein (See Detailed description paragraphs [007]-[008], [0013]-[0015], Drawings 1, 2), and

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wherein during recording of user data by the apparatus, a “first” predetermined pattern is first recorded in the zone start area “Address information of the zone recorded in the ID part), then user data (DATA) is recorded in the data recording area, and then “third” predetermined pattern (pattern division between each zones in each  $m-1$ ,  $m$ , and  $m+1$  zones etc.) is recorded in the coupling area, each predetermined pattern being unrelated to the user data. (See Detailed description paragraphs [007]-[008], [0013]-[0015], [0028]-[0030]; Drawings 5).

Aoki has the desirability of obtaining the start and end position of each zone by providing a zone start pattern (ID) at an inner circumference of the data recording area, so as to detect where a zone start and which inherently provides when a previous zone ends. But, Aoki does not expressly disclose a zone end pattern at an outer circumference of the data recording area.

However, this feature is well known in the art and is evidenced by Hui, which discloses an optical disk comprising: a plurality of tracks formed in a spiral direction of the optical disc, a plurality of zones (segments), each zone including a predetermined number of the plurality of tracks and each zone further including a data recording area where user data is recorded (A,B,C) and a zone end area (E) at an outer circumference of the data recording area (see Figs. 1 and 2).

It would have been obvious to an ordinary skill in the art at the time of the invention to include a zone end area at an outer circumference of the data recording area, in order to signify the end of the zones (segment) and prevents any overlapping of recorded data by detection of the zone end pattern, as taught by Hui.

Regarding claim 12, Aoki further discloses wherein each track further includes a land portion (See Detailed description paragraphs [007]-[008], [0013]-[0015]; Drawings 1,2).

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Regarding claim 14, Aoki further discloses wherein the optical disc is a DVD-RAM disc (See Detailed description paragraphs [002]-[008], [0013]-[0015]; Drawings 1,2,5).

Regarding claim 16, Aoki further discloses wherein the “third predetermined pattern” is recorded in the coupling area, with the pattern is based on a recording or reproduction system to perform recording or reproduction, respectively, to or from the optical disc (See Detailed description paragraphs [007]-[008], [0013]-[0015], [0028]-[0030]; Drawings 5 shows the pattern division between each zones in each  $m-1$ ,  $m$ , and  $m+1$  zones etc.).

Regarding claim 18, Aoki further discloses wherein the predetermined modulation rule is one of an FM modulation, an AM modulation, and a PM modulation (Inherently to Aoki).

Regarding claim 19, Aoki further discloses wherein the predetermined number of the plurality of tracks for each zone is based upon the data recording capacity needed for each zone plus an arbitrary recording capacity (See Detailed description paragraphs [007]-[008], [0013]-[0015], [0028]-[0030]; Drawings 5-“entire zone capacity”).

Regarding claim 21, Aoki further discloses wherein each zone has a plurality of sectors (See Detailed description paragraphs [002]-[008], [0013]-[0015]; Drawings 1,2,5).

Regarding claim 22, Aoki further discloses wherein each of the plurality of sectors has a sector address portion to store a corresponding sector address (See Detailed description paragraphs [002]-[008], [0013]-[0015]; Drawings 1,2,5).

In regard to claim 24, Method claim (24) is drawn to the method of recording the corresponding recorded disk claimed in claim 11. Therefore method claim 24 corresponds to recording medium of claim 11 and is rejected for the same reasons of obviousness as used above.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. 5,138, 599, which discloses an optical disc for use with a recording/reproducing apparatus, being divided into a plurality of zones each zone comprising:

a plurality of sectors each of which includes a data area having a designated recording capacity, an identification area in which zone address information for each zone is recorded based on a predetermined modulation rule, at least a coupling area to separate the zone from an adjacent zone to provide additional recording capacity, a predetermined pattern unrelated to the user data is recorded in the coupling area of the zone to correct for a deficiency, or an excess of the designated recording capacity of the zone.

### ***Response to Arguments***

Applicant's arguments filed 12/21/2006 have been fully considered but they are not persuasive.

Response to 35 U.S.C 112 rejections

Applicant argues that since the claims specify that the predetermined pattern is recorded on the disc, any reasonable interpretation of the claim language reveals that the predetermined pattern must be data. And since the claims further specify that the predetermined pattern is recorded after the user data is recorded and that the predetermined pattern is unrelated to the user data, applicants note that predetermined pattern is therefore defined as being data that is unrelated to data that has been recorded, “a predetermined pattern unrelated to the user data” has being specifically defined and believed to be clear on its face.

The examiner cannot concur with the Applicant. It is initially noted that the Applicant is referring back to what is being recited in the claim to define the terms that were not defined in the specification. For example, Applicant concludes that because the claims recite that is unrelated, hence they are defined as unrelated with the assumption that the pattern has to be data.

However, this is what is in question in the above rejection, that it is not clear how the Applicant defines the difference in the pattern and the relationship with the user data as to be unrelated as to enable one skilled in the art as to determine such predetermined pattern unrelated to the user data, to make the invention.

Furthermore, Applicant in his remarks, page 8, first four lines, recites that “a predetermined pattern unrelated to the user data is recorded in the coupling area of the zone to correct for a deficiency or an excess of the designated recording capacity of the zone”. This is an admission that the user data is related with the predetermined pattern, because applicant with this language is relating the predetermined pattern with the end of the user data.

Hence, if Applicant intention is relates this pattern with the user data, then Applicant have not provided the difference in the pattern and the relationship with the user data as to be unrelated as to enable one skilled in the art as to determine such predetermined pattern unrelated to the user data, to make the invention.

Even more, assuming *arguendo* that a predetermined pattern is “data” as Applicant argues. The subject matter is not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, for such “data unrelated to the user data”. Such relationship that defines how would make the “data” unrelated, it is not described in the specification.

#### Response to 35 U.S.C 103 rejections

Applicant argues that there is no disclosure that the “sectors” are to be linked together to from zones.

The examiner cannot concur, because it is first noted that this language is not found in the rejected claims. And furthermore Aoki discloses linking sectors together throughout the whole recording disk as shown in fig. 7.

Applicant argue that there is no disclosure that such zones would then be preceded by a zone start pattern and ended with a zone end pattern.

The examiner cannot concur because, Aoki discloses a zone start area at an inner circumference of the data recording area (See Detailed description paragraphs [0028]-[0030]; Drawings 5, “Address information of the zone recorded in the ID part”).

Applicant argues that Aoki does not disclose a zone end pattern.

The feature is taught by Hui, as outlined above, a zone end pattern (E) at an outer circumference of the data recording area (see Figs. 1 and 2).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant argues that Aoki does not disclose 'coupling areas'.

The examine cannot concur with the applicant because, first it is not clear what is "a predetermined pattern that is unrelated to the user data", with the broadest reasonable interpretation Aoki discloses a coupling area, links or joins, as each and **every area** between the plurality of zones is a coupling area and further coupled by the predetermined pattern between each zones in each m-1,m, and m+1 zones etc.), as shown in Fig. 5.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jorge L. Ortiz-Criado whose telephone number is (571) 272-7624. The examiner can normally be reached on Mon.-Thu.(12:30 pm- 9:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea L. Wellington can be reached on (571) 272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

joc

  
Andrea Wellington  
Supervisory Patent Examiner